FORM PTO-1390 (Modified) (REV 11-2000) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NUMBER	U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR
216606US2PCT	10/009995

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/FR99/01468	17 JUNE 1999	NONE

TITLE OF INVENTION

MAN/MACHINE INTERFACE METHOD AND DEVICE FOR A TICKET PROCESSING DEVICE COMPRISING A MAGNETIC STRIPE

APPLICANT(S) FOR DO/EO/US

Jean-Pierre GLIZE

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include itens (5), (6), (9) and (24) indicated below.
4. ☒ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
   a. ☐ is attached hereto (required only if not communicated by the International Bureau).
   b. ☒ has been communicated by the International Bureau.
   c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
   a. ☒ is attached hereto.
   b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
   a. ☐ are attached hereto (required only if not communicated by the International Bureau).
   b. ☐ have been communicated by the International Bureau.
   c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
   d. ☒ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).
11. ☒ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☒ A copy of the International Search Report (PCT/ISA/210).

Items 13 to 20 below concern document(s) or information included:

13. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☒ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☐ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
20. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
21. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
22. ☐ Certificate of Mailing by Express Mail
23. ☒ Other items or information:

PCT/IB/308
Drawings (5 sheets)

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
10/009995	PCT/FR99/01468	216606US2PCT

24. The following fees are submitted:.	CALCULATIONS PTO USE ONLY	
BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) :		
☐ Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO **$1040.00**		
☒ International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO **$890.00**		
☐ International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO **$740.00**		
☐ International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) **$710.00**		
☐ International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) **$100.00**		
ENTER APPROPRIATE BASIC FEE AMOUNT =	**$890.00**	
Surcharge of **$130.00** for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (e)).	**$0.00**	

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	13 - 20 =	0	x $18.00	**$0.00**	
Independent claims	2 - 3 =	0	x $84.00	**$0.00**	
Multiple Dependent Claims **(check if applicable).**			☐	**$0.00**	
TOTAL OF ABOVE CALCULATIONS =				**$890.00**	
☐ Applicant claims small entity status. See 37 CFR 1.27). The fees indicated above are reduced by 1/2.				**$0.00**	
SUBTOTAL =				**$890.00**	
Processing fee of **$130.00** for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (f)). +				**$0.00**	
TOTAL NATIONAL FEE =				**$890.00**	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) **(check if applicable).** ☐				**$0.00**	
TOTAL FEES ENCLOSED =				**$890.00**	
				Amount to be: refunded	$
				charged	$

a. ☒ A check in the amount of **$890.00** to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. _____ in the amount of _____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. **15-0030** A duplicate copy of this sheet is enclosed.

d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

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Dec. 14 2001
DATE

216606US

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :

JEAN-PIERRE GLIZE : ATTN: APPLICATION DIVISION

SERIAL NO: NEW U.S. PCT APPLN :
(Based on PCT/FR99/01468)

FILED: HEREWITH :

FOR: MAN/MACHINE INTERFACE METHOD AND DEVICE FOR A TICKET PROCESSING DEVICE COMPRISING A MAGNETIC STRIP :

PRELIMINARY AMENDMENT

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

Prior to a first examination on the merits, please amend the above-identified application as follows:

IN THE CLAIMS

Please cancel Claims 1-13 without prejudice.

Please add new Claims 14-26 as follows:

14. (New) Man/machine interface method for ticket processing device including a magnetic read/write station, a thermal printing station, and a controller, comprising:

a) writing to a magnetic stripe of a configuration ticket at least certain operating parameters of the ticket processing device to be configured, and printing the configuration

parameters on the configuration ticket, corresponding to magnetic inscription of the configuration parameters;

b) inserting the configuration ticket into the processing device to be configured;

c) reading contents of the magnetic stripe of the configuration ticket; and

d) storing the read configuration parameters, which enables the controller to configure functioning of the ticket processing device with aid of the stored configuration parameters, and which enables an installer to have a configuration ticket on which the corresponding configuration parameters are printed.

15. (New) Method according to claim 14, wherein step a) includes programming the configuration ticket with the aid of a chosen programming machine, comprising at least a magnetic read/write station, a thermal printing station, and a controller.

16. (New) Method according to claim 14, further comprising:

1) capturing information relating to activity of the ticket processing device;

2) storing the captured information; and

3) printing on a statement ticket the stored capture information.

17. (New) Method according to claim 16, wherein step 3) comprises editing of cycle and incident counters superimposed on a statement ticket representing the device's mechanism and elements concerned by operational functioning.

18. (New) Method according to claim 16, further comprising step 4) planning to write on the statement ticket, corresponding to the thermal printing, the statement information.

19. (New) Method according to claim 14, further comprising:

i) preparing a thermal printing reference ticket comprising at least one printed reference mark relating to horizontal, vertical framing of thermal printing or to density of a thermal print;

ii) inserting into a ticket processing device to be adjusted the thermal printing reference ticket;

iii) printing at least one reference scale on the thermal printing reference ticket in relation to the reference mark; and

iv) indicating a value of coincidence between an element of the reference scale and the reference mark.

20. (New) Method according to claim 14, further comprising:

I) inserting into a ticket processing device to be adjusted a reference ticket comprising a magnetic stripe extending from transversal edges of the reference ticket and on a longitudinal side of the ticket;

II) detecting a first transversal edge of the reference ticket;

III) writing on the magnetic stripe of the reference ticket a sequence of elementary reference inscriptions, a start of which is delivered before an arrival of the reference ticket at the magnetic read/write station and comprising a reference mark;

IV) counting a number of the written elementary reference inscriptions on the magnetic stripe of the reference ticket, up to the reference mark, and deducing from that a distance between optical detection of the transversal edge of the reference ticket and the magnetic inscription.

21. (New) Method according to claim 14, further comprising a cutting position centering step, of planning to prepare a reference ticket comprising attenuation lines, the

reference ticket being inserted into the ticket processing device to be adjusted and the cutting position being compared visually in relation to attenuation lines.

22. (New) Method according to claim 14, further comprising a checking step in which elementary movements of the device are proceeded with function by function and/or code line by code line.

23. (New) Man/machine interface device for ticket processing comprising a magnetic read/write station, thermal printing station, control means, means for writing on a magnetic stripe of a configuration ticket at least certain operating parameters of a ticket processing device to be configured, and means for printing on the configuration ticket, corresponding to the magnetic programming, the configuration parameters;

wherein the read/write station of the ticket processing device is configured to read contents of the magnetic stripe of the configuration ticket inserted into the ticket processing device to be configured; and

wherein the control means comprise storage means configured to store the read configuration parameters, which enables the control means to configure functioning of the ticket processing device with the aid of the stored configuration parameters, and which enable the installer to have a configuration ticket on which the corresponding configuration parameters are printed.

24. (New) Device according to claim 23, further comprising means configured to note information relating to activity of the ticket processing device, the storage means being configured to store the noted information, and the printing station configured to print onto a statement ticket the stored information.

25. (New) Device according to claim 24, wherein the magnetic read/write station is configured to write on the statement ticket, corresponding to the thermal printing, the statement information.

26. (New) Device according to claim 23, further comprising:

means for preparing a reference ticket comprising a magnetic stripe extending from transversal edges of the ticket and on a longitudinal side of the ticket;

means for detecting a first transversal edge of the reference ticket;

means for writing on the magnetic stripe of the reference ticket a sequence of elementary reference inscriptions, a start of which is delivered before arrival of the reference ticket at the magnetic write station and comprising a reference mark; and

means for counting a number of elementary reference inscriptions written on the magnetic stripe of the reference ticket, up to the reference mark, and deducing from that a distance between optical detection of the transversal edge of the ticket and the magnetic inscription.

REMARKS

Favorable consideration of this application, as presently amended, is respectfully requested.

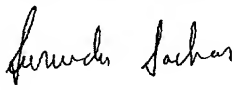
The present preliminary amendment is submitted to place the above-identified application in more proper format under United States practice. By the present preliminary amendment original Claims 1-13 are cancelled and new Claim 14-26 are presented for examination. New Claims 14-26 are deemed to be self-evident from the original disclosure, including original Claims 1-13, and thus are not deemed to raise any issues of new matter.

Any difference between new Claims 14-26 and original Claims 1-13 is deemed to at most broaden the scope of new Claims 14-26.

The present application is believed to be in condition for a full and thorough examination on the merits. An early and favorable consideration of the present application is hereby respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



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Marked-Up Copy
Serial No:
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Amendment Filed on:
_____

IN THE CLAIMS

--Claims 1-13 (Canceled).

Claims 14-26 (New).--

Man/machine interface method and device for a ticket processing device comprising a magnetic stripe.

This invention concerns the field of man/machine interfaces for a ticket processing device comprising a magnetic stripe.

It has a particular application in the processing of transport tickets, notably air or railway tickets, comprising magnetic information.

In Patents FR 88 00734 and FR 88 00733, the Applicant has already described a ticket processing device comprising an insertion station, a delivery station, a magnetic read/write station and a thermal printing station.

In this kind of ticket processing device, the installer manually programmes the different configuration parameters and parameters for adaptation of the different processing device stations, with the help of a man/machine interface formed by a keyboard and a display screen.

The Applicant has addressed the problem of providing a man/machine interface enabling in particular the automation and improvement of the man/machine dialogue, the programming and/or adaptation of a ticket processing device with a magnetic stripe.

This invention provides just such a solution to this problem.

It concerns a man/machine interface method for a ticket processing device comprising a magnetic stripe, the processing device being of the type containing a magnetic read/write station, a thermal printing station and control means.

According to a general definition of the invention, the interface method includes the following stages:

a) – write on the magnetic stripe of a configuration ticket at least certain operating parameters of the processing device to be configured, and print the said configuration parameters on the said configuration ticket, corresponding to the magnetic inscription of the said configuration parameters;

b) – insert the configuration ticket into the processing device to be configured;

c) – read the content of the configuration ticket's magnetic stripe; and

d) – store the configuration parameters so read, which enables, on one hand, the control means to configure the functioning of the ticket processing device with the aid of the said configuration parameters so stored, and on the other hand, the installer to have a configuration ticket on which the corresponding said configuration parameters are printed.

Thus, thanks to the interface method according to the invention, the operation consisting of programming the operating parameters of the processing device according to the operating conditions becomes automatic, and leaves a written trace to the installer.

In practice, stage a) consists of programming the configuration ticket with the help of a chosen programming machine, including at least one magnetic read/write station and one thermal printing station and control means.

To the best advantage, the configuration ticket may be generated by any machine of the same family as that of the device to be configured, which will have been correctly programmed for a given need. After this

programming on the machine to be programmed, the configuration ticket is edited by the corresponding printing station.

Preferably, the configuration ticket includes, in clear, the personalisation parameters printed on the front of the ticket, while the reflection of this information is written magnetically on the magnetic stripe of the said configuration ticket.

According to another important characteristic of the invention, the man/machine interface method can include, in an optional mode, the following stages:

1/. – capturing information relating to the activity of the ticket processing device;

2/. – storing the said information so captured; and

3/. – printing the said information so stored on a statement ticket.

For example, the information includes the description of an event, and the value of the counter associated with that event.

So, during its operational functioning, the ticket processing device is capable of recording to a permanent memory information relating to its activity and/or to any incidents detected.

Thanks to the statement ticket, the ticket processing device can edit a statement of that information on a suitable kind of statement.

As a variant, stage 3) mentioned above includes the editing of cycle and incident counters superimposed on a statement ticket representing the device's mechanism and the various elements concerned by operational functioning.

To the best advantage, the method includes in addition a stage 4) in which it is planned to write magnetically on the said statement ticket, corresponding to the thermal printing, the said statement information. This device thus enables the automatic capture during an inspection by a technician and the transport of the information to a collection station located, for example, in the maintenance workshop.

According to another aspect of the invention, in addition a man/machine interface method is planned which enables automatic adjustment to be carried out of the different mechanical parameters governing the operational performance of the basic functions of a device for processing tickets with a magnetic stripe.

In practice, the adjustment method includes the following stages:

- I) insert into a ticket processing device to be adjusted a reference ticket comprising a magnetic stripe extending from one transversal edge of the ticket to the other and on the longitudinal side of the said ticket;

- II) detect at least one transversal edge of the reference ticket;

- III) write on the magnetic stripe of the reference ticket a sequence of elementary reference inscriptions the start of which is delivered before the arrival of the reference ticket at the magnetic read/write station and including at least one reference mark;

- IV) count the number of elementary reference inscriptions so written on the magnetic stripe of the reference ticket, up to the reference mark, and deduce from that the distance between optical detection of the transversal edge of the ticket and magnetic inscription.

It must be pointed out that the distance between optical detection of the front edge of the ticket and magnetic inscription, may vary from one ticket processing device to another. Thanks to measuring this distance in accordance with the invention method, it is thus possible to ensure optimum framing of the magnetic read/write, by positioning. Furthermore, by applying the aforementioned method for the other transversal edge of the reference ticket, it is possible to adjust the magnetic inscription density the variability of which may result from differences occurring between two ticket processing devices, in particular in the means of driving the ticket into the magnetic write area (evolute, diameter of the drive roller, belt characteristics).

To the best advantage, the acquisition or the adjustment of all parameters, peculiar to each mechanism, is condensed into a single procedure which takes place after construction of the ticket processing device or after a maintenance operation.

During this single procedure, the following elements may be adjusted automatically:

- framing of the magnetic inscription;
- adjustment of the magnetic inscription density;
- framing of printing horizontally and vertically; and
- adjustment of the print density (image anamorphosis).

Density adjustment is made necessary by the variability of the ticket displacement evolute in front of the magnetic read/write and thermal printing stations.

For its part, framing adjustment is made necessary by the variability of the distance between the optical detector and the magnetic read/write station as well as between the optical detector and the thermal printing station.

To the best advantage, the adjustment procedure includes in addition a cut centring stage, in which it is planned to prepare a reference ticket comprising attenuation lines, the reference ticket being inserted into the ticket processing device to be adjusted and the reference ticket being cut at the attenuation lines.

Thus, the effective cutting position is compared visually by the operator in relation to the reference attenuation lines.

This invention is also aimed at a man/machine interface device enabling the implementation of the method according to the invention.

Other characteristics and benefits of the invention will appear in the light of the description detailed below and the drawings in which:

- figure 1 is a side view diagram of a processing device according to the invention;

- figure 2 shows a configuration ticket according to the invention;

- figure 3 represents a statement ticket showing the maintenance counters of a ticket processing device according to the invention;

- figure 4 represents a statement ticket relating to the maintenance counters according to the invention;

- figure 5 represents a reference ticket relating to the thermal printing according to the invention;

- figure 6 represents another reference ticket relating to the thermal printing according to the invention;

- figure 7 represents an adjustment ticket showing the framing of the thermal printing on horizontal, vertical and density scales according to the invention;

- figure 8 represents, diagrammatically, the optical detector and the magnetic write head of the device according to the invention; and

- figure 9 represents a reference ticket enabling the distance to be measured between the optical detector and the magnetic write head of figure 8.

The appended drawings comprise, for numerous tickets, elements of a certain nature. They may, therefore, not only be used to illuminate the description below, but also to contribute to the definition of the invention, if necessary.

With reference to figure 1, a ticket processing device DIS has been represented, which is for example the one described in the Patent Application lodged in the name of the Applicant, on the same day as this Application, and under the title "Ticket processing device with thermal printing and magnetic read/write according to an internal trajectory in a closed circuit". To all useful effects, such a Patent Application is an integral part of this description.

In short, the ticket processing device DIS includes an insertion station PIN, a delivery station DEL, a magnetic read/write station PIL and a thermal printing station TT.

The ticket belt is directed in front of a magnetic read/write station PIL, including a first magnetic write head TM1, followed by a second magnetic read head TM2.

As a variant, the magnetic read/write station PIL comprises only one magnetic head, in this case, the band passes in front of the single magnetic head several times.

For the magnetic read/write, feed means C1, M1, are planned to be capable of feeding a ticket according to a bi-directional internal section (direction F1 or F2), going from the insertion station to a delivery station, via the magnetic read/write station.

Once the magnetic writing of information has been completed on a ticket concerned, followed by its immediate reading, the belt is driven according to a guide channel CG1 in front of a cutting station COU, according to direction F1.

As soon as the cut has been completed on the ticket concerned, the control means UC can drive the motor M1 in the direction F2, the opposite to direction F1, in order to take the ticket so cut to the thermal printing station TT.

In practice, switching means 20 are planned which enable the ticket to be directed, so magnetically read/written and cut, to the thermal printing station TT, in accordance with direction F2, in a guide channel CG2 distinct from the intake channels CA1, CA2 and CA3.

Guide channel CG2 takes the ticket into the thermal printing station TT comprising a body 22 extended by a head 24 co-operating by friction with a roller 26, fulfilling the role of an anvil for the said print head 24.

The thermal station TT is, for example, the one described in the International Patent Application lodged in the name of the Applicant, on the same day as that of this Application, and under the title "Device for processing tickets, in particular transport ones, of different formats". To all useful effects, such an Application is an integral part of this description.

The guide channel CG2 extends after the thermal printing station in accordance with direction F2 to come out at a ticket output or ticket delivery station DEL emptying into an outlet receptacle.

Switching means 40 are arranged downstream from the thermal printing station TT and upstream from the delivery station DEL in accordance with direction F2. The switching means 40 are capable, under the command of the control means UC, of directing the ticket either to the delivery station DEL or to the magnetic read/write station, in accordance with direction F2.

Preferably, it is planned to arrange in the closed circuit, according to the invention, a supplementary tickets insertion station INTS for tickets already cut, that is to say not attached to the ticket passing belt, in accordance with the attenuation lines.

In practice, the insertion station INTS comprises an intake slot 60 defining an intake channel CAS for supplying the closed circuit with tickets already cut.

Bi-directional feed means are planned for the supplementary insertion station INTS in order to bring a ticket completely into the closed circuit, according to direction F1, and to then send it, after complete insertion, to the read/write station PIL, in direction F2.

In practice, the processing unit UC controls the entry of the ticket according to direction F1 and in response to the detection of the complete insertion of the ticket into the closed circuit according to F1, the control unit can control the bi-directional processing means in order to feed the said ticket to the magnetic read/write station, according to direction F2.

According to the invention, a man/machine interface method is planned, intended to automate and improve man/machine dialogue, programming and/or adjustment of a ticket processing device DIS.

Firstly, the method according to the invention comprises the following stages:

a) – writing on the magnetic stripe of a configuration ticket at least certain operating parameters of the processing device to be configured, and printing the said configuration parameters on the said configuration ticket, corresponding to the magnetic inscription of the said configuration parameters.

b) – inserting the configuration ticket into the processing device to be configured, for example at the supplementary insertion station INTS;

c) – reading the content of the magnetic stripe on the configuration ticket; and

d) – storing the configuration parameters so read.

Thanks to the method according to the invention, the control means UC are capable of configuring the functioning of the ticket processing device DIS, with the help of the said configuration parameters so stored. Furthermore, the installer has a configuration ticket TITC on which the said corresponding configuration parameters are printed.

Thus, the operation consisting of programming the operating parameters of the processing device according to operating conditions becomes automatic, and leaves a written trace to the installer.

In practice, stage a) consists of programming the configuration ticket with the help of a chosen programming machine, comprising at least a

magnetic read/write station and a thermal printing station and control means.

To the best advantage, the configuration ticket TITC may be generated by any machine of the same family as that of the device to be configured, that machine having been correctly programmed for a given need. After this programming on the machine to be programmed, the configuration ticket is edited by the corresponding printing station.

Preferably, the configuration ticket comprises, in clear, the personalisation parameters printed on the front of the ticket, while the reflection of that information is written magnetically on the magnetic stripe of the said configuration ticket.

With reference to figure 2, a configuration ticket TITC has been shown on the FA1 side of which information relating to configuration parameters is printed. On the other side, opposite the FA1 side, a magnetic stripe on the configuration ticket contains the magnetic inscriptions corresponding to the printed information.

For example, the information printed on the ticket TITC relates to equipment (3 band intake channels, direct thermal printing, a reject station), communication protocol (9600 bauds, even parity, 8 bits, 1 stop), magnetic reading/writing, and various other parameters.

Secondly, the man/machine interface method can include an optional mode which comprises the following stages:

1/. – capturing information relating to the activity of the ticket processing device;

2/. – storing the said information so captured; and

3/. – printing on a statement ticket the said information so stored.

For example, the information includes the description of an event, and the value of the counter associated with that event.

So, during operational functioning, the ticket processing device is capable of recording to a permanent memory (not represented) the information relating to its activity and/or to any incidents detected.

Thanks to the statement ticket, the ticket processing device can edit a statement of that information on an appropriate type of statement.

With reference to figures 3 and 4, the statement ticket TIR1 or TIR2 comprises the editing of the cycle and incident counters superimposed on a statement ticket representing the device's mechanism and the different elements concerned by operational functioning.

To the best advantage, it is planned in addition to write magnetically on the said statement ticket TIR1 or TIR2, corresponding to the thermal printing, the said statement information. This arrangement thus enables the automatic capture during inspection by a technician and the transport of the information to a collecting station situated, for example, in the maintenance workshop, or formed by a micro-computer equipped with a scanner and connected via a communication network to an appropriate server.

With reference to figure 5, several fonts are printed on a reference ticket TREF1 to check the thermal printing quality according to the said fonts.

With reference to figure 6, a sequence of elementary segments SEG are printed on a reference ticket TREF2, each representing the activity of a heating element of the print head described in the International Patent Application lodged in the name of the Applicant, on the same

day as that of this Application, and under the title "Device for processing tickets, in particular transport ones, of different formats".

Thus the activity of each heating element is checked visually and immediately. On the right part of the reference ticket TREF2, the order number of the heating element declared out of action by the measuring means (not represented) is indicated.

Thirdly, in addition a man/machine interface method is planned enabling automatic adjustment to be carried out of different mechanical parameters governing the operational performance of basic functions of a device for processing tickets with a magnetic stripe.

In practice, with reference to figure 7, the thermal printing adjustment method comprises the following stages:

- i) preparing a reference thermal printing ticket TREF3 comprising at least one printed reference mark (here three reference marks REH1, REV and REH2 relating respectively to the horizontal H, vertical V framing of the thermal printing, and to the density D of the thermal printing);

- ii) inserting into a ticket processing device to be adjusted, the reference thermal printing ticket TREF3;

- iii) printing at least one reference scale on the reference thermal printing ticket TREF3 in relation to the reference mark REH1, REH2 or REV; and

- iv) indicating the value of coincidence between an element of the reference scale H, V or D, and the reference mark REH1, REH2 or REV.

To the best advantage, the acquisition or adjustment of all parameters, peculiar to each mechanism, is condensed into a single procedure carried out after construction of the ticket processing device, after a maintenance operation, or after noticing a drift of one of the ticket processing device elements according to the invention.

During this single procedure, the following elements may be adjusted automatically;

- framing of the magnetic inscription and of the density of the magnetic inscription (figures 8 and 9);
- framing of the printing horizontally H and vertically V (figure 7); and
- adjustment of the print density D (image anamorphosis, figure 7).

With reference to figure 7, the reference scales relating to the horizontal framing H, vertical framing and density adjustment D, each comprise a graduated scale with a zero separating a positive part whose graduations are numbered in 2s, and a negative part whose graduations are also numbered in 2s.

To the best advantage, the adjustment procedure comprises in addition a cutting position centring stage, in which it is planned to check the actual cutting position, the reference ticket being inserted into the ticket processing device to be adjusted, and the operator comparing visually the cut in relation to the attenuation lines.

To the best advantage, the framing of the magnetic inscription is also adjusted according to the invention method (to the best advantage during the same procedure as that of thermal printing).

In practice, the magnetic inscription framing adjustment method comprises the following stages:

- I) inserting into a ticket processing device to be adjusted a reference ticket comprising a magnetic stripe extending from one transversal edge of the ticket to the other, and on the longitudinal side of the said ticket;

- II) detecting at least one transversal edge of the reference ticket;

- III) writing on the magnetic stripe of the reference ticket a sequence of elementary reference inscriptions the start of which is delivered before the arrival of the reference ticket at the magnetic read/write station and comprising at least one reference mark;

- IV) counting the number of elementary reference inscriptions so written on the magnetic stripe of the reference ticket, up to the reference mark, and deducing from that the distance between optical detection of the transversal edge of the ticket and the magnetic inscription.

It must be pointed out that the distance between optical detection of the front edge of the ticket and the magnetic inscription may vary from one device to another. Thanks to measuring that distance in accordance with the invention method, it is thus possible to ensure optimum framing of the magnetic reading/writing, by positioning.

Furthermore, by applying the aforementioned method for the other transversal edge of the reference ticket, with the aid of another reference mark placed in the sequence of elementary inscriptions following the first reference mark, it is possible to adjust the magnetic inscription density.

With reference to figures 8 and 9, the implementation of this method uses a device which comprises the following means:

- means suitable for preparing a reference ticket TREF4, on paper PAP, comprising a magnetic stripe PM extending from one transversal edge BAVT to the other BART of the ticket, and on the longitudinal side of the said ticket;

- means DO11 for detecting at least one transversal edge BAVT of the reference ticket TREF4;

- means TM1 for writing on the magnetic stripe PM of the reference ticket TREF4, a sequence of elementary reference inscriptions SIER whose start is delivered before the arrival of the reference ticket TREF4 at the write station TM1 and comprising at least one reference mark RE1;

- means UC for counting the number of elementary reference inscriptions SIER so written on the magnetic stripe PM of the reference ticket TREF4, up to the reference mark RE1, and deducing from that the distance DIDI between optical detection DO11 of the transversal edge of the ticket and the magnetic inscription TM1.

For the other transversal edge of the reference ticket BART, it is planned to apply the aforementioned method using in addition another reference mark RE2 placed in the sequence of elementary inscriptions SIER following the first reference mark RE1.

Counting of the elementary inscriptions for the two edges BAVT and BART of the ticket enables adjustment of the magnetic inscription density.

In practice, the detection means DO11 comprise an optical detector mounted upstream from the magnetic read/write station according to direction F1. This optical detector is used to start the magnetic read/write. For example, this optical detector is the one which participates in thickness detection as described in the International

Patent Application lodged in the name of the Applicant, on the same day as that of this Application, and under the title "Ticket processing device with thickness detector". To all useful effects, such an Application is an integral part of this description.

To the best advantage, innovations are also made to the operation and monitoring of the functioning of the ticket processing device.

For example, the motivity of each ticket feed element is monitored.

For the purposes of maintenance checks, it is possible, according to the invention, to implement a checking stage in which the elementary movements of magnetic read/write, cutting, belt return to the supplies stock, and thermal printing are proceeded with function by function and/or code line by code line.

Claims

1. Man/machine interface method for ticket processing device (DIS) of the type comprising a magnetic read/write station (PIL), a thermal printing station (TT) and control means (UC), characterised in that the method comprises the following stages:

a) – writing to the magnetic stripe of a configuration ticket (TITC) at least certain operating parameters of the ticket processing device to be configured (DIS), and printing the said configuration parameters on the said configuration ticket (TITC), corresponding to the magnetic inscription of the said configuration parameters;

b) – inserting the configuration ticket (TITC) into the processing device to be configured (DIS);

c) – reading the content of the magnetic stripe of the configuration ticket (TITC); and

d) – storing the configuration parameters so read, which enables, on one hand, the control means (UC) to configure the functioning of the ticket processing device with the aid of the said configuration parameters so stored and, on the other, an installer to have a configuration ticket (TITC) on which the said corresponding configuration parameters are printed.

2. Method according to claim 1, characterised in that stage a) consists of programming the configuration ticket (TITC) with the aid of a chosen programming machine, comprising at least a magnetic read/write station, a thermal printing station and control means.

3. Method according to claim 1, characterised in that it comprises in addition the following stages:

1/. – capturing information relating to the activity of the ticket processing device (DIS);

2/. – storing the said information so captured; and

3/. – printing on a statement ticket (TIR) the said information so stored.

4. Method according to claim 3, characterised in that stage 3) comprises the editing of cycle and incident counters superimposed on a statement ticket (TIR) representing the device's mechanism and the elements concerned by operational functioning.

5. Method according to claim 3 or claim 4, characterised in that it comprises in addition a stage 4) in which it is planned to write on the said statement ticket (TIR), corresponding to the thermal printing, the said statement information.

6. Method according to one of the above claims, characterised in that it comprises in addition the following stages:

- i) preparing a thermal printing reference ticket (TREF3) comprising at least one printed reference mark (REH1, REV, REH2) relating to the horizontal (H), vertical (V) framing of the thermal printing or to the density (D) of the thermal print;

- ii) inserting into a ticket processing device to be adjusted the thermal printing reference ticket (TREF3);

- iii) printing at least one reference scale (H, V, D) on the thermal printing reference ticket (TREF3) in relation to the reference mark (REH1, REV, REH2); and

- iv) indicating the value of coincidence between an element of the reference scale (H, V, D) and the reference mark (REH1, REV, REH2).

7. Method according to one of the above claims, characterised in that it comprises the following stages:

- I) inserting into a ticket processing device to be adjusted a reference ticket (TREF4) comprising a magnetic stripe (PM) extending from one transversal edge (BAVT) of the ticket to the other (BART) and on the longitudinal side of the said ticket;

- II) detecting a transversal edge of the reference ticket (TREF4);

- III) writing on the magnetic stripe (PM) of the reference ticket (TREF4) a sequence of elementary reference inscriptions the start of which is delivered before the arrival of the reference ticket at the magnetic read/write station and comprising a reference mark (RE1);

- IV) counting the number of elementary reference inscriptions (SIER) so written on the magnetic stripe of the reference ticket (TREF4), up to the reference mark (RE1), and deducing from that the distance (DIDI) between optical detection of the transversal edge of the ticket and the magnetic inscription.

8. Method according to one of the above claims, characterised in that it comprises in addition a cutting position centring stage, in which it is planned to prepare a reference ticket (TREF) comprising attenuation lines, the reference ticket being inserted into the ticket processing device to be adjusted and the cut position being compared visually in relation to the attenuation lines.

9. Method according to one of the above claims, characterised in that it comprises in addition a checking stage in which the elementary

movements of the device are proceeded with function by function and/or code line by code line.

10. Man/machine interface device for ticket processing device of the type comprising a magnetic read/write station (PIL), thermal printing station (TT) and control means (UC), characterised in that it comprises means suitable for writing on the magnetic stripe of a configuration ticket (TITC), at least certain operating parameters of a ticket processing device to be configured (DIS), and means for printing on the said configuration ticket (DIS), corresponding to the magnetic programming, the said configuration parameters;

in that the read/write station (PIL) of the ticket processing device to be configured (DIS) is capable of reading the content of the magnetic stripe of the configuration ticket (TITC) inserted into the said ticket processing device to be configured (DIS); and

in that the control means (UC) comprise storage means suitable for storing the configuration parameters so read, which enables, on one hand, the control means (UC) to configure the functioning of the ticket processing device with the aid of the said configuration parameters so stored, and, on the other, the installer to have a configuration ticket (TITC) on which the said corresponding configuration parameters are printed.

11. Device according to claim 10, characterised in that it comprises means suitable for noting information relating to the activity of the ticket processing device, the storage means being suitable for storing the said information so noted, and the printing station (TT) being capable of printing onto a statement ticket (TIR) the said information so stored.

12. Device according to claim 11, characterised in that the magnetic read/write station (PIL) is capable of writing on the said statement ticket (TIR), corresponding to the thermal printing, the said statement information.

13. Device according to one of claims 10 to 12, characterised in that it comprises:

- means suitable for preparing a reference ticket (TREF4) comprising a magnetic stripe (PM) extending from one transversal edge (BAVT) of the ticket to the other (BART) and on the longitudinal side of the said ticket;

- means (DO11) for detecting a transversal edge of the reference ticket (TREF4);

- means (TM1) for writing on the magnetic stripe (PM) of the reference ticket (TREF4) a sequence of elementary reference inscriptions (SIER) the start of which is delivered before the arrival of the reference ticket (TREF4) at the magnetic write station (TM1) and comprising a reference mark (RE1); and

- means (UC) for counting the number of elementary reference inscriptions (SIER) so written on the magnetic stripe (PM) of the reference ticket (TREF4), up to the reference mark (RE1), and deducing from that the distance (DIDI) between optical detection (DO11) of the transversal edge of the ticket and the magnetic inscription (TM1).

(12) DEMANDE INTERNATIONALE PUBLIÉE EN VERTU DU TRAITÉ DE COOPÉRATION EN MATIÈRE DE BREVETS (PCT)

(19) Organisation Mondiale de la Propriété Intellectuelle
Bureau international

(43) Date de la publication internationale
28 décembre 2000 (28.12.2000)

PCT

(10) Numéro de publication internationale
WO 00/79489 A1

(51) Classification internationale des brevets[7]: G07B 1/00, 5/00

(21) Numéro de la demande internationale:
PCT/FR99/01468

(22) Date de dépôt international: 17 juin 1999 (17.06.1999)

(25) Langue de dépôt: français

(26) Langue de publication: français

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(81) États désignés *(national)*: BR, CA, JP, US.

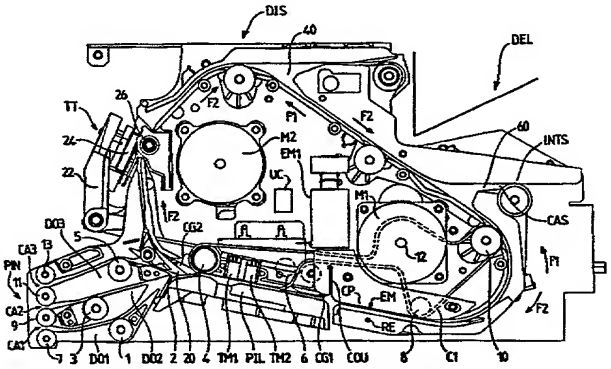
(84) États désignés *(régional)*: brevet européen (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Publiée:
— *Avec rapport de recherche internationale.*

[Suite sur la page suivante]

(54) Title: MAN/MACHINE INTERFACE METHOD AND DEVICE FOR A TICKET PROCESSING DEVICE COMPRISING A MAGNETIC STRIPE

(54) Titre: PROCEDE ET DISPOSITIF D'INTERFACE HOMME/MACHINE POUR DISPOSITIF DE TRAITEMENT DE TITRES COMPORTANT UNE PISTE MAGNETIQUE



(57) **Abstract:** The invention concerns a man/machine interface method for a ticket processing device (DIS) comprising a magnetic read/write station (PIL), a thermal printing station (TT) and control means (UC), including the following steps: a) writing on the magnetic stripe of a configuration ticket at least certain operating parameters of the ticket processing device to be configured (DIS), and printing said parameters on said configuration ticket, corresponding to said configuration parameters; b) inserting the configuration ticket into the processing device to be configured; c) reading the content of the configuration ticket magnetic stripe; d) storing the configuration parameters read, thereby enabling the control means (UC) to provide the configuration for the functioning of the ticket processing device using said stored configuration parameters and an installer to be provided with a ticket configuration whereon are printed said corresponding configuration parameters.

(57) **Abrégé:** Le procédé d'interface homme/machine pour dispositif de traitement de titres (DIS) du type comprenant un poste d'inscription/lecture magnétique (PIL), un poste d'impression thermique (TT) et des moyens de commande (UC), comprend les étapes suivantes: a) inscrire sur la piste magnétique d'un titre de configuration au moins certains

[Suite sur la page suivante]

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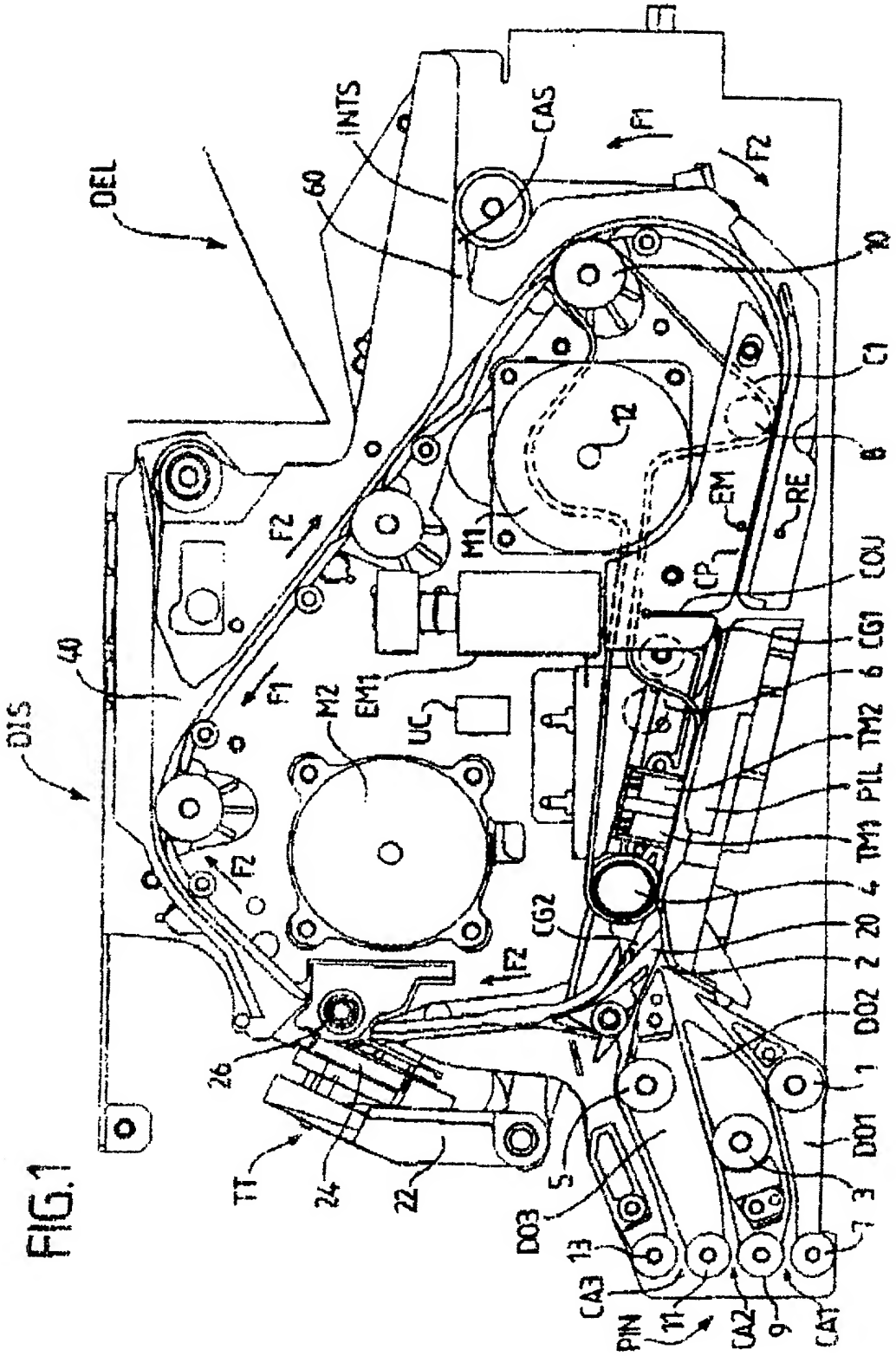
DEL
INTS
CAS
F1
F2
60
70
C1
12
EM
RE
M1
CP
COU
CG1
6
TM2
PIL
TM1
4
20
2
DO2
1
DO1
3
7
CA1
CA2
CA3
PIN
11
9
13
DO3
5
CG2
22
24
TT
26
M2
EM1
UC
40
DIS

FIG.1

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FIG. 2

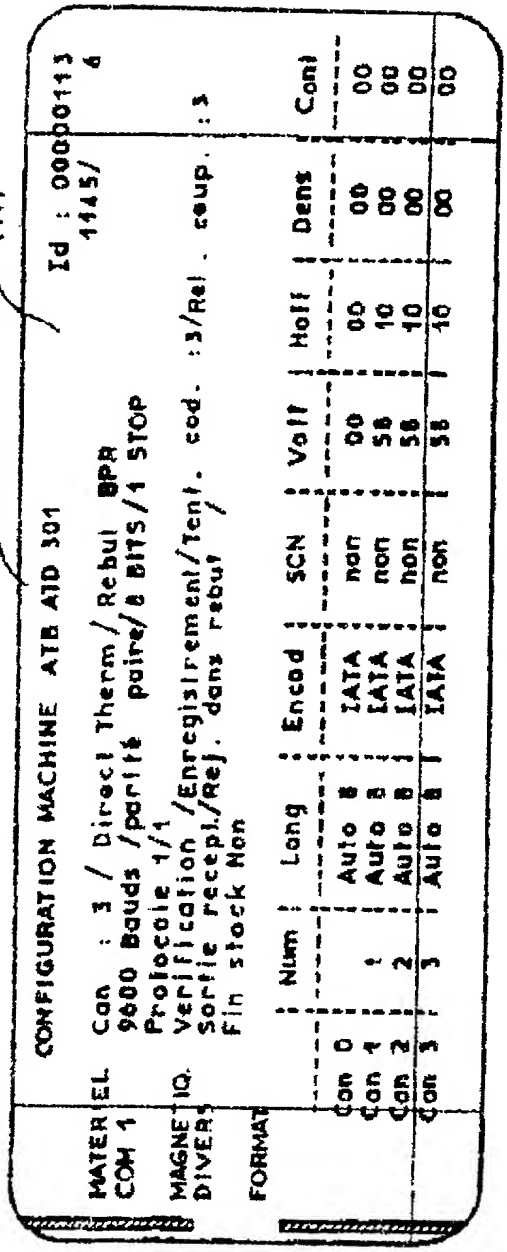
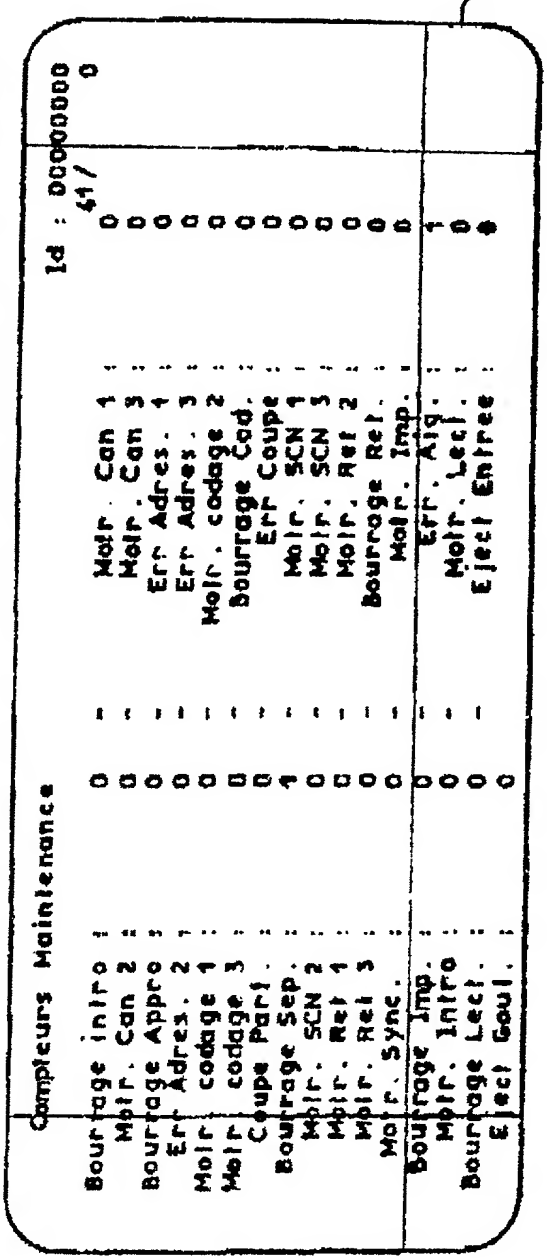

FA1
TITC
CONFIGURATION MACHINE ATB AID 301
Id : 00000113
1445/ 4
MATERIEL Can : 3 / Direct Therm/Rebul BPR
COM 1 9600 Bauds /parité paire/8 BITS/1 STOP
Protocole 1/1
MAGNETIQ. Vérification /Enregistrement/Tent. cod. :3/Rel. coup. :3
DIVERS Sortie recept./Rej. dans rebut /
Fin stock Non
FORMAT
Num | Long | Encod | SCN | Voll | Holl | Dens | Cont
Can 0 | Auto B | IATA | non | 00 | 00 | 00 | 00
Can 1 | Auto B | IATA | non | 56 | 10 | 00 | 00
Can 2 | Auto B | IATA | non | 56 | 10 | 00 | 00
Can 3 | Auto B | IATA | non | 56 | 10 | 00 | 00

FIG. 3


TIR 1
Id : 00000000
41/ 0
Compteurs Maintenance
Bourrage Intro : 0
Moir. Can 1 : 0
Moir. Can 2 : 0
Moir. Can 3 : 0
Bourrage Appro : 0
Err Adres. 1 : 0
Err Adres. 2 : 0
Err Adres. 3 : 0
Moir. codage 1 : 0
Moir. codage 2 : 0
Moir. codage 3 : 0
Bourrage Cod. : 0
Coupe Part. : 0
Err Coupe : 0
Bourrage Sep. : 1
Moir. SCN 1 : 0
Moir. SCN 2 : 0
Moir. SCN 3 : 0
Moir. Rel 1 : 0
Moir. Rel 2 : 0
Moir. Rel 3 : 0
Bourrage Rel. : 0
Moir. Sync. : 0
Moir. Imp. : 0
Bourrage Imp. : 0
Err. Alg. : 1
Moir. Intro : 0
Moir. Lect. : 0
Bourrage Lect. : 0
Eject Entree : 0
Ejct Goul. : 0

3/5

FIG.4

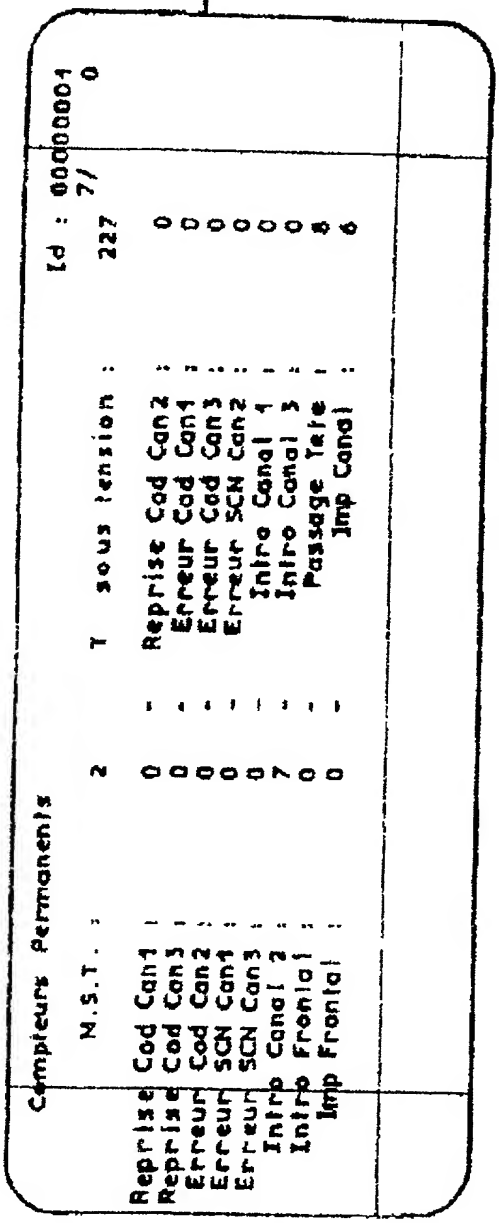

TIR2
Compteurs Permanents
Id : 00000001
N.S.T. : 2 T sous tension : 227
Reprise Cod Can1 : 0 - Reprise Cod Can2 : 0
Reprise Cod Can3 : 0 - Erreur Cod Can1 : 0
Erreur Cod Can2 : 0 - Erreur Cod Can3 : 0
Erreur SCN Can1 : 0 - Erreur SCN Can2 : 0
Erreur SCN Can3 : 0 - Intro Canal 1 : 0
Intro Canal 2 : 7 - Intro Canal 3 : 0
Intro Frontal : 0 - Passage Tete : 8
Imp Frontal : 0 - Imp Canal : 6

FIG.5

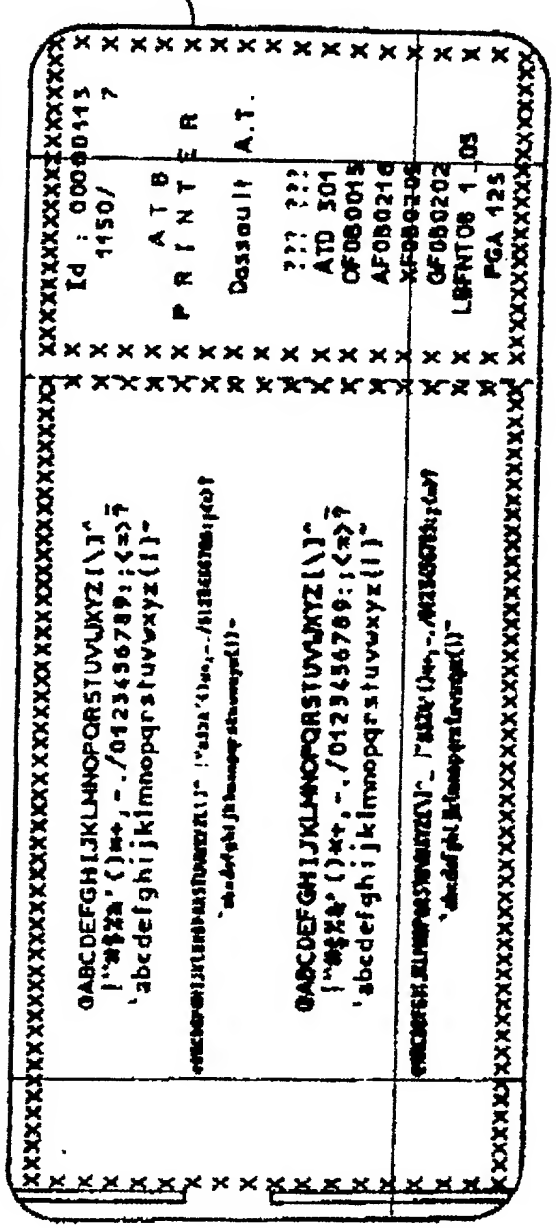

TREF1
Id : 00000113
1150/ 7
ATB
PRINTER
Dassault A.T.
??? ???
ATD 501
LBFNT08 1_05
PGA 125

FIG.6

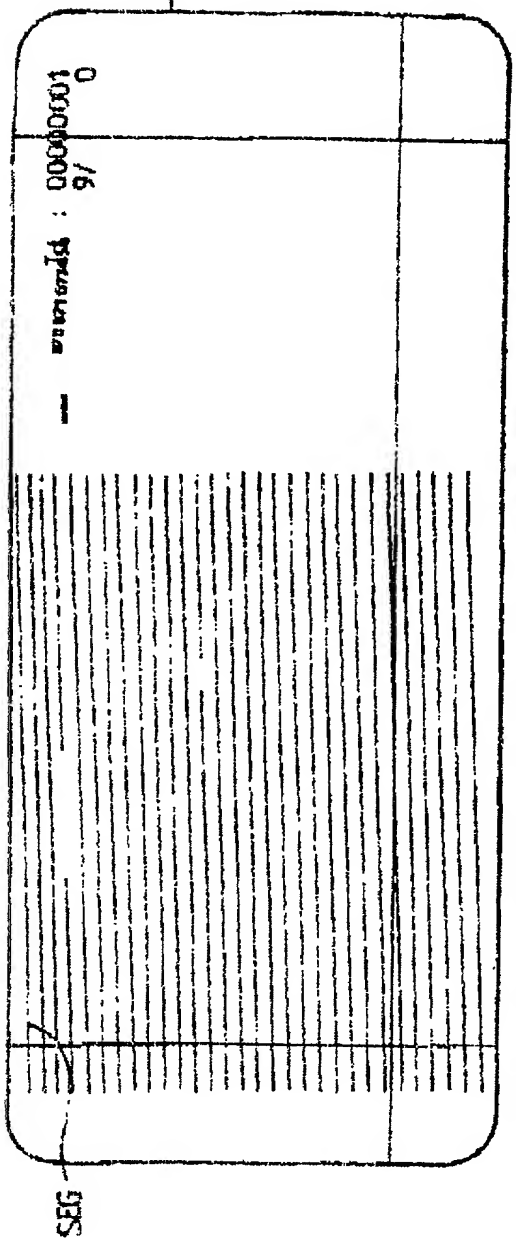


FIG.7

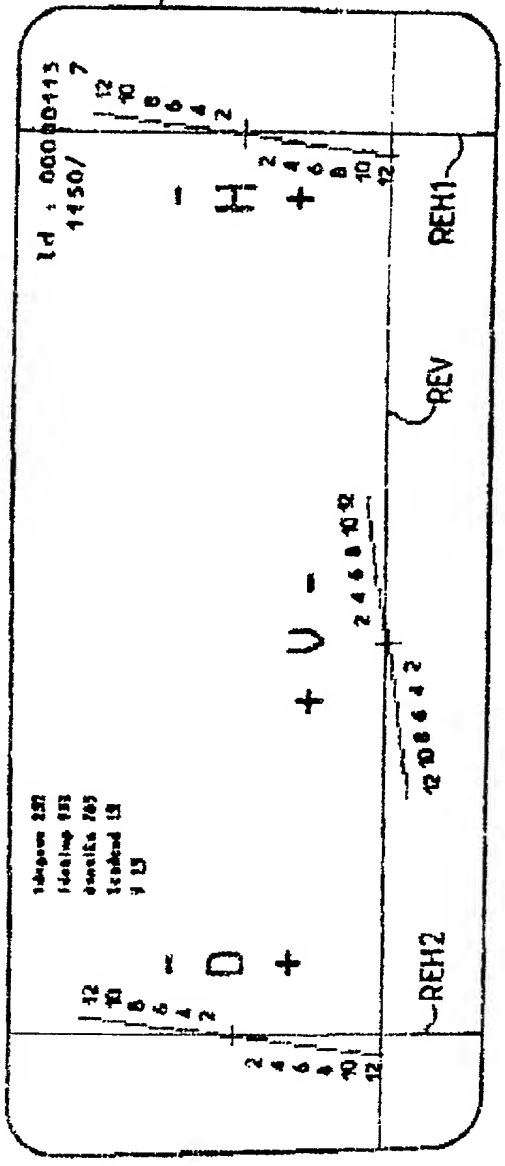


FIG.8

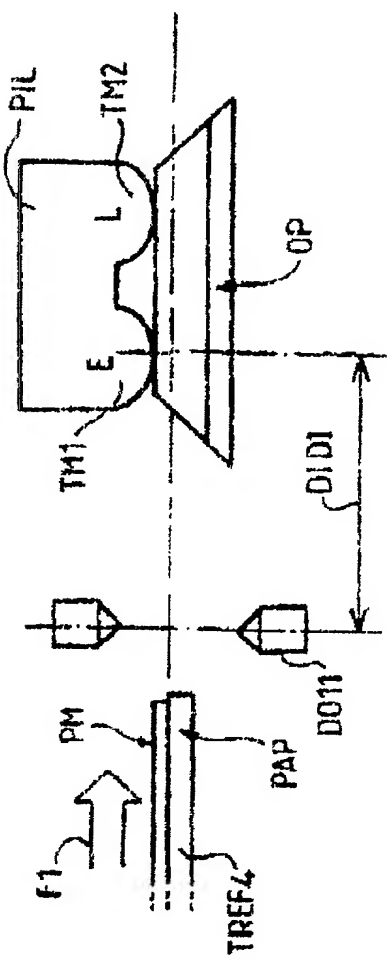
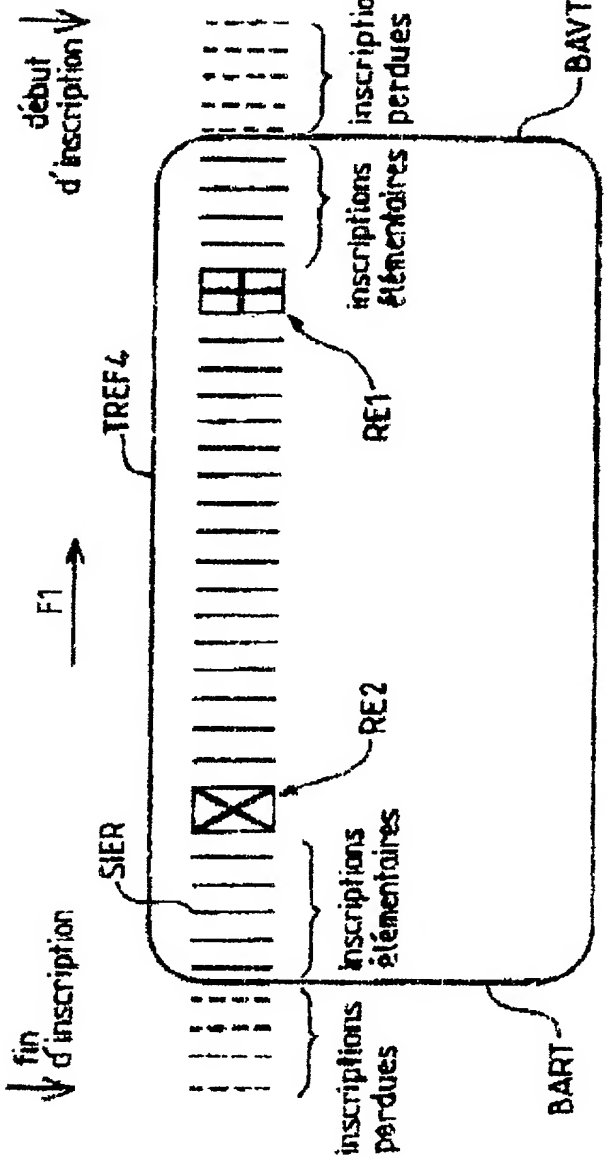

PIL
TM2
L
E
TM1
OP
DI DI
PM
PAP
DO11
F1
TREF4

FIG.9


début d'inscription
inscriptions perdues
BAVT
inscriptions élémentaires
RE1
TREF4
F1
RE2
SIER
inscriptions élémentaires
fin d'inscription
inscriptions perdues
BART

Declaration and Power of Attorney for Patent Application
Déclaration et Pouvoirs pour Demande de Brevet

French Language Declaration

En tant l'inventeur nommé ci-après, je déclare par le présent acte que:

As a below named inventor, I hereby declare that:

Mon domicile, mon adresse postale et ma nationalité sont ceux figurant ci-dessous à côté de mon nom.

My residence, post office address and citizenship are as stated next to my name.

Je crois être le premier inventeur original et unique (si un seul nom est mentionné ci-dessous), ou l'un des premiers co-inventeurs originaux (si plusieurs noms sont mentionnés ci-dessous) de l'objet revendiqué, pour lequel une demande de brevet a été déposée concernant l'invention intitulée

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Procédé et dispositif d'interface homme/machine pour dispositif de traitement de titres comportant une piste magnétique.

et dont la description est fournie ci-joint à moins

the specification of which:

☐ ci-joint

☐ is attached hereto.

☒ a été déposée le 17.06.1999

☐ was filed on _____

sous le numéro de demande des Etats-Unis ou le numéro de demande international PCT /FR99/01468

as United States Application Number or PCT International Application Number

_____ et modifiée le

_____ and was amended on

_____ (le cas échéant).

_____ (if applicable).

Je déclare par le présent acte avoir passé en revue et compris le contenu de la description ci-dessus, revendications comprises, telles que modifiées par toute modification dont il aura été fait référence ci-dessus.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

Je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

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Je revendique par le présent acte avoir la priorité étrangère, en vertu du Titre 35, § 119(a)-(d) ou § 365(b) du Code des Etats-Unis, sur toute demande étrangère de brevet ou certificat d'inventeur ou, en vertu du Titre 35, § 365(a) du même Code, sur toute demande internationale PCT désignant au moins un pays autre que les Etats-Unis et figurant ci-dessous et, en cochant la case, j'ai aussi indiqué ci-dessous toute demande étrangère de brevet, tout certificat d'inventeur ou toute demande internationale PCT ayant une date de dépôt précédant celle de la demande à propos de laquelle une priorité est revendiquée.

I hereby claim foreign priority under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below, and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)
Demande(s) de brevet anterieure(s) dans un autre pays.

(Number) (Numéro)	(Country) (Pays)	(Day/Month/Year Filed) (Jour/Mois/Anné de dépôt)	Priority claimed Droit de priorité revendiqué ☐ Yes Oui	☐ No Non
(Number) (Numéro)	(Country) (Pays)	(Day/Month/Year Filed) (Jour/Mois/Anné de dépôt)	☐ Yes Oui	☐ No Non

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(Application No.) (Nº de demande)	(Filing Date) (Date de dépôt)	(Application No.) (Nº de demande)	(Filing Date) (Date de dépôt)

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I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(Application No.) (Nº de demande)	(Filing Date) (Date de dépôt)	(Status) (patented, pending, abandoned) (Statut) (breveté, en cours d'examen, abandonné)
(Application No.) (Nº de demande)	(Filing Date) (Date de dépôt)	(Status) (patented, pending, abandoned) (Statut) (breveté, en cours d'examen, abandonné)

Je déclare par le présent acte que toute déclaration ci-incluse est, à ma connaissance, véridique et que toute déclaration formulée à partir de renseignements ou de suppositions est tenue pour véridique; et de plus, que toutes ces déclarations ont été formulées en sachant que toute fausse déclaration volontaire ou son équivalent est passible d'une amende ou d' une incarcération, ou des deux, en vertu de la Section 1001 du Titre 18 du Code des Etats-Unis, et que de telles déclarations volontairement fausses risquent de compromettre la validité de la demande de brevet ou du brevet délivré à partir de celle-ci.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

French Language Declaration

POUVOIRS· En tant que l'inventeur cité, je désigne par la présente l'(les) avocat(s) et/ou agent(s) suivant(s) pour qu'ils poursuive(nt) la procédure de cette demande de brevet et traite(nt) toute affaire s'y rapportant avec l'Office des brevets et des marquees· *(mentionner le nom et le numéro d'enregistrement)*

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: *(list name and registration number)*

022850

Addresser toute correspondance à·

Send Correspondence to:

022850

Adresser tout appel téléphonique à:
(nom et numéro de téléphone)

Direct Telephone calls to: *(name and telephone number)*

(703) 413-3000

Nom complete de l'unique ou premier inventeur GLIZE Jean-Pierre	Full name of sole or first inventor
Signature de l'inventeur Date Jean Pierre Glize 29 Nov 2001	Inventor's signature Date
Domicile 45, Avenue du Château de Bertin F- 78400 CHATOU - FRANCE	Residence
Nationalité Française FRX	Citizenship
Adresse Postale même adresse	Post Office Address
Nom complete du second co-inventeur, le cas echeant	Full name of second joint inventor, if any
Signature de l'inventeur Date	Second inventor's signature Date
Domicile	Residence
Nationalité	Citizenship
Adresse Postale	Post Office Address

(Fournier les mêmes renseignements et la signature de tout co-inventeur supplémentaire)

(Supply similar information and signature for third and subsequent joint inventors.)